REMARKS

An Excess Claim Fee Payment Letter for one (1) excess total claim is submitted herewith.

Claims 1-6, 9-13, 18 and 21-29 are all the claims presently pending in the present Application. Claims 2, 4, 5, 9 and 11 have been amended to more particularly define the claimed invention. Claims 14-17 and 19-20 have been canceled. Claims 21-29 have been added to claim additional features of the claimed invention.

It is noted that the amendments are made only to overcome the Examiner's non-statutory objections, and to more particularly define the invention and not for distinguishing the invention over the prior art, for narrowing the scope of the claims, or for any reason related to a statutory requirement for patentability.

It is further noted that, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

Applicant gratefully acknowledges the Examiner's indication that claims 9-10 are allowed. However, Applicant respectfully submits that all of the claims are allowable.

Claims 1, 4 and 11 stand rejected under 35 U.S.C. §102 (b) as being allegedly anticipated by Hiji et al (JP 6-273802). Claims 2, 5, 12 and 18 stand rejected under 35 U.S.C. §103 (a) as being allegedly unpatentable over Hiji. Claims 3, 6 and 13 stand rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Hiji in view of Sato et al. (U. S. Patent No. 5,718,992).

These rejections are respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (e.g., as recited, for example, in claim 1) is directed to an active matrix liquid crystal display (LCD) device including a first substrate, a second substrate disposed in opposing relation to the first substrate, a liquid crystal layer sandwiched between the first substrate and the second substrate, a plurality of pixel electrodes arranged in a matrix on the first substrate, a plurality of switching elements disposed on the first substrate in association with the pixel electrodes, respectively, for driving the pixel electrodes, respectively, and a plurality of data

lines disposed on the first substrate at respective gaps between adjacent two of the pixel electrodes, for supplying data signals to the switching elements.

Importantly, the claimed invention includes a black matrix **disposed on the first substrate** in association with the data lines, for blocking light passing in a predetermined viewing angle range through a light leakage region created in the liquid crystal layer depending on a potential difference between adjacent two of the pixel electrodes (Application at Figures 3-6; page 11, lines 8-27).

Conventional LCD devices include pixel electrodes 15 formed on a thin film transistor (TFT) substrate 10 (Application at Figure 1). However, when a potential difference is created between adjacent pixel electrodes to display a black image, a white image region is created in a location of a gap between the adjacent pixel electrodes (e.g., a light leakage region), which decreases the contrast as viewed in an oblique direction resulting in a smaller viewing angle (Application at page 5, line 7-page 6, line 11).

The claimed invention, on the other hand, includes a black matrix **disposed on the first substrate** in association with the data lines, for blocking light passing in a predetermined viewing angle range through a light leakage region created in the liquid crystal layer depending on a potential difference between adjacent two of the pixel electrodes (Application at Figures 3-6; page 11, lines 8-27). This may help to increase the contrast as viewed in an oblique direction and hence increase a viewing angle for an LCD device (Application at page 13, lines 3-6).

II. THE ALLEGED PRIOR ART REFERENCES

A. Hiji

The Examiner alleges that Hiji teaches the invention of claims 1, 4 and 11, and makes obvious the invention of claims 2, 5, 12 and 18. Applicant submits, however, that there are features of the claimed invention that are not taught or suggested by Hiji.

Specifically, Applicant submits that Hiji does not teach or suggest "*a black matrix **disposed on said first substrate** in association with said data lines, for blocking light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes*",

as recited in claim 1 and similarly recited in claims 4 and 11.

As noted above, unlike conventional LCD devices in which, when a potential difference is created between adjacent pixel electrodes to display a black image, a white image region is created in a location of a gap between the adjacent pixel electrodes (e.g., a light leakage region) which decreases the contrast as viewed in an oblique direction resulting in a smaller viewing angle, the claimed invention includes a black matrix **disposed on the first substrate** in association with the data lines. The black matrix may block light passing in a predetermined viewing angle range through a light leakage region, which may help to increase the contrast as viewed in an oblique direction and hence increase a viewing angle for an LCD device (Application at page 13, lines 3-6).

Clearly, these features are not taught or suggested by Hiji. Indeed, Hiji does not even teach or suggest that black matrix 11 is formed on the substrate which includes the pixel electrodes 7 (e.g., the TFT substrate). Instead, **Hiji teaches that the black matrix 11 is formed on the substrate 2, 2' which opposes the TFT substrate**, which is completely different than the claimed invention. In fact, Figures 3, 7 and 9 of Hiji show **the black matrix 11 formed on the substrate 2, 2' which opposes the TFT substrate, whereas none of the drawings in Hiji teach the black matrix 11 formed on the TFT substrate 1, 1'.**

Moreover, Hiji clearly states that the black matrix 11 is formed on the substrate 2, 2' which opposes the TFT substrate 1, stating:

> *"since most generated reverse tilt fields are equivalent to the upper part of signal-line 4a or scanning line 5a, it is covered by the black matrix 11* ***prepared in the opposite substrate 2****, and can suppress the fall of the contrast of the display screen very small"* (Hiji at paragraph [0047]) (emphasis added).

The Examiner attempts to rely on paragraphs [0008]-[0010] in Hiji to support her position. However, nowhere in these paragraphs, or anywhere else, does Hiji teach or suggest that black matrix 11 is formed on the TFT substrate 1, 1'. In fact, these paragraphs pertain to the conventional LCD device which is depicted in Figure 9. However, as noted above, **Figure 9 clearly shows that the black matrix 11 in such conventional devices is formed on the opposing substrate 2.**

Therefore, Hiji clearly does not teach or suggest the black matrix of the claimed invention.

Therefore, Applicant submits that there are features of the claimed invention that are not taught or suggested by Hiji. Therefore, the Examiner is respectfully requested to withdraw this rejection.

B. Sato

The Examiner alleges that Hiji would have been combined with Sato to form the invention of claims 3, 6 and 13. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention.

Indeed, Applicant submits that these references are completely unrelated, and no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Further, neither Hiji, nor Sato, nor any alleged combination thereof teaches or "*a black matrix* ***disposed on said first substrate*** *in association with said data lines, for blocking light passing in a predetermined viewing angle range through a light leakage region created in said liquid crystal layer depending on a potential difference between adjacent two of said pixel electrodes*", as recited in claim 1 and similarly recited in claims 4 and 11.

As noted above, unlike conventional LCD devices in which, when a potential difference is created between adjacent pixel electrodes to display a black image, a white image region is created in a location of a gap between the adjacent pixel electrodes (e.g., a light leakage region) which decreases the contrast as viewed in an oblique direction resulting in a smaller viewing angle, the claimed invention includes a black matrix **disposed on the first substrate** in

association with the data lines. The black matrix may block light passing in a predetermined viewing angle range through a light leakage region, which may help to increase the contrast as viewed in an oblique direction and hence increase a viewing angle for an LCD device (Application at page 13, lines 3-6).

Clearly, this feature is not taught or suggested by the Sato. Indeed, Sato discloses a light-shielding layer 13c, but the light-shielding layer 13c is formed on the counterelectrode substrate 13, **not on the TFT substrate 12** (Sato at Figure 1). Specifically, Sato teaches that the black matrix portion of the light-shielding layer may used as a counterlectrode substrate for a TFT array substrate for black and white display (Sato at col. 9, lines 50-52).

Therefore, like Hiji, Sato clearly does not teach or suggest the black matrix of the claimed invention. Therefore, Sato clearly does not make up for the deficiencies of Hiji.

Therefore, Applicant respectfully submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-6, 9-13, 18 and 21-29, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully submitted,

Date: 6/7/06

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